

## HR-190 Portable School Stop Signs and Other Non-uniform School Stop Control Devices

**Key Words:** School crossings, Portable stop signs, Traffic signing

### ABSTRACT

Portable (roll-out) stop signs are used at school crossings in over 300 cities in Iowa. Their use conforms to the Code of Iowa, although it is not consistent with the provisions of the Manual on Uniform Traffic Control Devices adopted for nationwide application. A survey indicated that most users in Iowa believe that portable stop signs provide effective protection at school crossings, and favor their continued use.

Other non-uniform signs that fold or rotate to display a STOP message only during certain hours are used at school crossings in over 60 cities in Iowa. Their use does not conform to either the Code of Iowa or the Manual on Uniform Traffic Control Devices. Users of these devices also tend to favor their continued use.

A survey of other states indicated that use of temporary devices similar to those used in Iowa is not generally sanctioned. Some un-sanctioned use apparently occurs in several states, however. A different type of portable stop sign for school crossings is authorized and widely used in one state. Portable stop signs similar to those used in Iowa are authorized in another state, although their use is quite limited.

A few reports in the literature reviewed for this research discussed the use of portable stop signs. The authors of these reports uniformly recommended against the use of portable or temporary traffic control devices. Various reasons for this recommendation were given, although data to support the recommendation were not offered.

As part of this research, field surveys were conducted at 54 locations in 33 communities where temporary stop control devices were in use at school crossings. Research personnel observed the obedience to stop control and measured the vehicular delay incurred. Stopped delay averaged 1.89 seconds/entering vehicle. Only 36.6 percent of the vehicles were observed to come to a complete stop at the study locations controlled by temporary stop control devices. However, this level of obedience does not differ from that observed at intersections controlled by permanent stop signs.

Accident experience was compiled for 76 intersections in 33 communities in Iowa where temporary stop signs were used and, for comparative purposes, at 76 comparable intersections having other forms of control or operating without stop control. There were no significant differences in accident experience

between the study locations and the control locations, despite the higher pedestrian exposure at the designated school crossings using temporary stop signs.

An economic analysis of vehicle operating costs, delay costs, and other costs indicated that temporary stop control generated costs only about 12 percent as great as permanent stop control for a street having a school crossing. Midblock pedestrian-actuated signals were shown to be cost effective in comparison with temporary stop signs under the conditions of use assumed. Such signals could be used effectively at a number of locations where temporary stop signs are being used.

The results of this research do not provide a basis for recommending that use of portable stop signs be prohibited. However, erratic patterns of use of these devices and inadequate designs suggest that improved standards for their use are needed. Accordingly, nine recommendations are presented to enhance the efficiency of vehicular flow at school crossings, without causing a decline in the level of pedestrian protection being afforded.